

OT 150/220-240/1A4 1DIMA P7**Constant Current LED Driver**

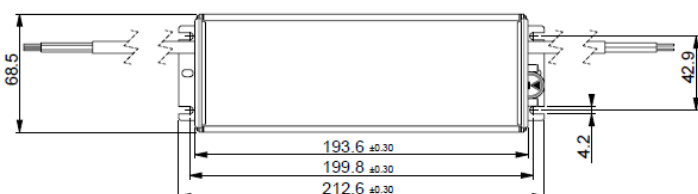
OPTOTRONIC® LED Power Supply is the reliable choice for outdoor lighting applications. This driver offers adjustable current (0.4A – 1.4A) for outdoor application with constant power at input voltage range 220V – 240V.

**Benefits**

Easily programmable by NFC; (AstroDIM / Constant lumen)
 High surge protection up to 6 kV;
 High efficiency and reliability;
 Adjustable and wide output current range;
 Constant power;
 Over temperature protection;
 Double isolation between primary/secondary sides
 IP67 (Independent installation)
 Long life time

Applications

Street and Urban lighting
 Industrial lighting
 Suitable for luminaries of protection class I

**Approval Marks**

Housing material: Aluminum Color: Silver

In preparation, if not already printed on product label

Product Features

- Adjustable output current 0.4A - 1.4A
- Output power up to 150 W
- Uout: 91 – 214 Vdc
- High surge up to 6kV
- Over temperature protection
- Mains voltage 220 – 240 V
- IP67 (Independent installation)
- Wide t_a range $-40^{\circ}\text{C} \dots +55^{\circ}\text{C}$
- 100'000 h lifetime at $t_c = 75^{\circ}\text{C}$
- 5 years guarantee

Electrical Specifications

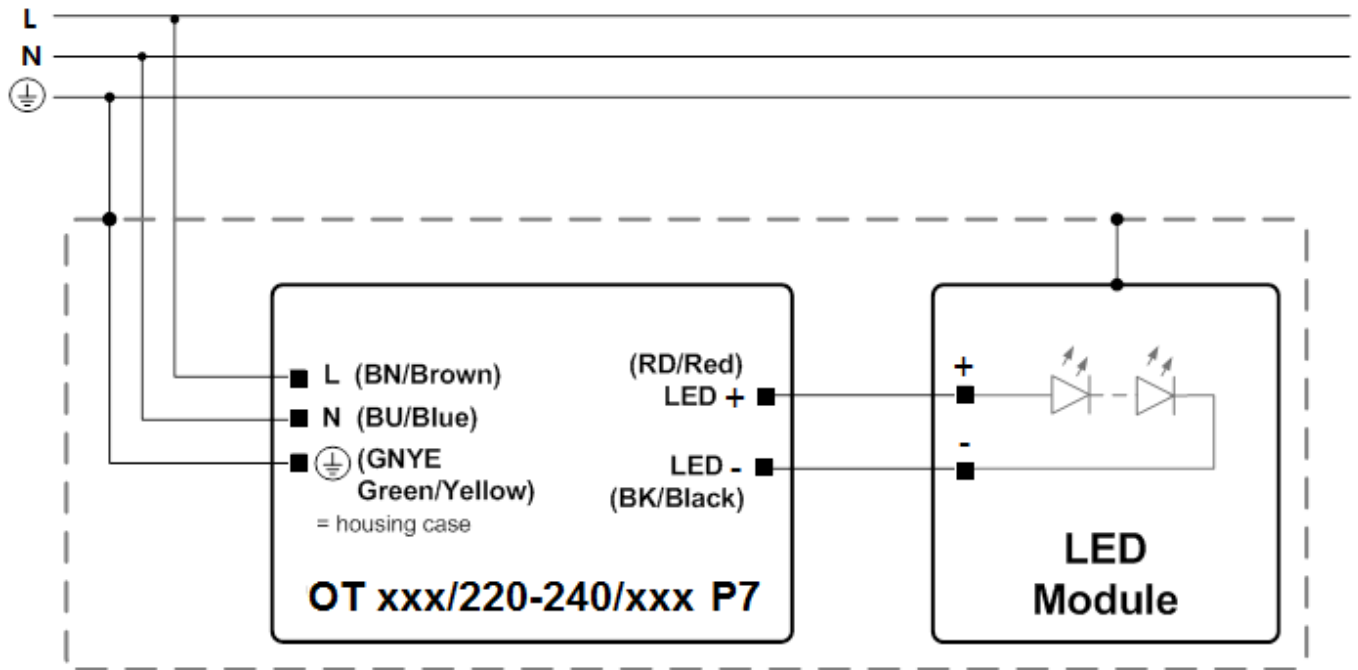
| | Item | Value | Unit | Remarks |
|--------------------------|--------------------------------------|----------------------------|-------|---|
| INPUT | Nominal voltage | 220 – 240 | Vac | |
| | Nominal frequency | 50 / 60 | Hz | |
| | AC voltage range | 198 – 264 | Vac | |
| | DC voltage range | NA | Vdc | |
| | Maximum voltage | 350 | Vac | For 2h maximum, see remark |
| | Nominal power | 163 | W | Vin 230v 50Hz, Io 0.7A |
| | Nominal current | 0.77 | A | Vin 230v 50Hz |
| | Total Harmonic Distortion (THD) | < 10 | % | Full load |
| | Power factor | > 0.97 | | Full load |
| | Efficiency | 92.0 | % | Vin 230v 50Hz |
| | Power losses | 13 | W | Vin 230v 50Hz, Io 0.7A |
| | Stand-by power | NA | mW | |
| | Protection class | I | | Housing must be connected to PE |
| | Touch current | < 0.35 | mA pk | according to EN 60598-1 Annex G and EN 61347-1 Annex A |
| | Inrush current | 120 | A pk | Max, th = 250 µs |
| | Max. units per circuit breaker | B25: 8 B16: 5 B10: 3 | | |
| OUTPUT | Nominal output voltage range | 107 – 214 | Vdc | Full power range |
| | Output voltage range | 91 – 214 | Vdc | |
| | Maximum output voltage | 300 | Vdc | Abnormal load protection, constant output voltage |
| | Nominal current range | 0.7-1.4 | A | 0.4A – 1.4A Adjustable, by NFC |
| | Current accuracy | ± 5 | % | |
| | Ripple current | < ± 5 | % | Low frequency ≤100Hz, full load @ 230V |
| | Nominal power range | 75 – 150 | W | |
| | Maximum power | 150 | W | |
| Galvanic isolation | Basic | | | |
| DIMMING / INTERFACE | Dimming control | NA | | |
| | 0-10V | NA | | |
| | AstroDIM | Yes | | Astro base or Time base |
| | Dimming range | 25-100% | | Please refer to operation window |
| | Dimming technique | NA | | |
| | Galvanic isolation Interface | NA | | |
| | LEDset2 | NA | | |
| | NTC input | NA | | |
| Constant Lumen Function | Yes | | | |
| ENVIRONMENT / DIMENSIONS | Ambient temperature range t_a | -40 ... +55 | °C | Nominal Input Voltage: 220-240Vac |
| | Max. case temperature at t_c point | 85 | °C | |
| | Max. case temp. in fault condition | 120 | °C | |
| | Storage temperature range | -25...+85 | °C | |
| | Relative humidity | 5 ... 95 | % | Not condensing, Absolute humidity: 36g/m ³ |
| | Surge transient protection | 6 6 | kV | L/N L/PE, N/PE acc to. EN 61547-5.7 |
| | Environmental rating | Outdoor | | |
| | IP rating | IP 67 | | Potted |
| | Mains switching cycles | > 100'000 | | |
| | Expected lifetime | 50'000 100'000 | h | $t_c = 85^\circ\text{C}$ with max. 10% failure rate $t_c = 75^\circ\text{C}$, with max. 10% failure rate @ 220...240V input |
| | Dimensions | 212.6 x 68.5 x 38.6 | mm | |
| Weight | 940 | g | | |

Protections

Over temperature, Overload, No load, Short-circuit, Input overvoltage, Output Overvoltage

See remarks on page 5.

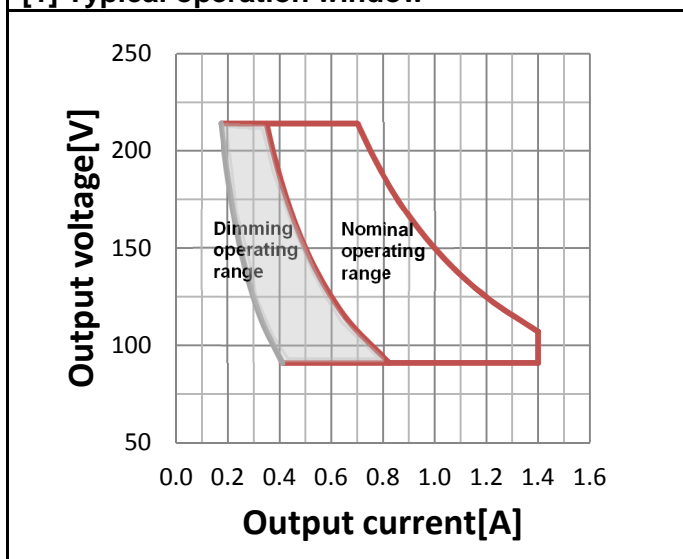
Wiring Diagram



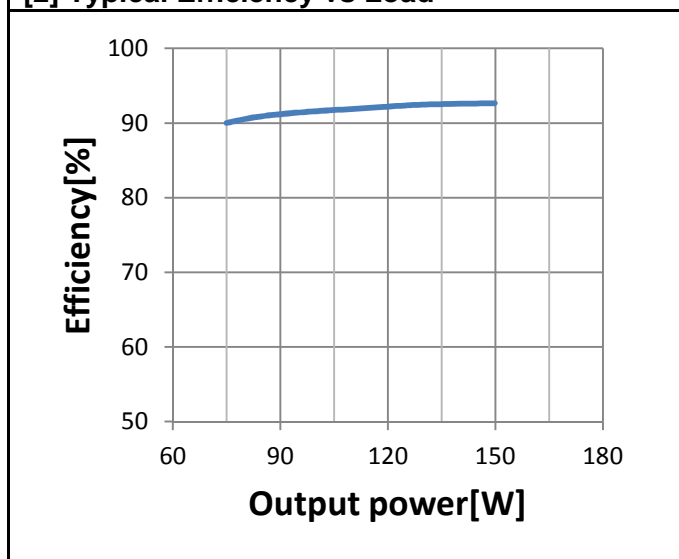
Hot plug-in or secondary switching of LEDs is not permitted and may cause a very high current to the LEDs.

| Item | Value | Unit | Remarks |
|--------------|-------------------------|---------------------------|--|
| INPUT | Cable cross section | 1.0 | mm ² L (Brown/BN), N (Blue/BU), PE(Green/Yellow, GNYE) |
| | Wire preparation length | 10 | mm |
| | Type of wire | Flexible three core cable | |
| | Lead length | 600 ± 20 | mm |
| OUTPUT | Cable cross section | 1.0 | mm ² LED+ (Red/RD), LED- (Black/BK) |
| | Wire preparation length | 10 | mm |
| | Type of wire | Flexible two Core cable | |
| | Lead length | 300 ± 20 | mm |
| CABLE/LENGTH | LED+/LED- | < 2 | m |

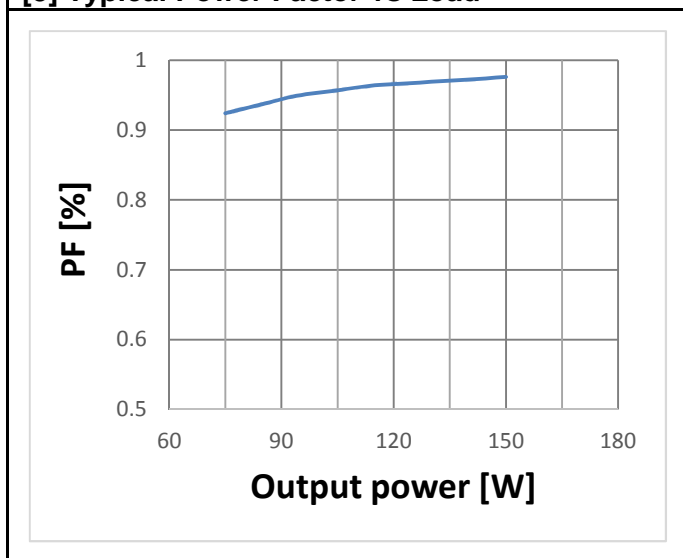
[1] Typical operation window



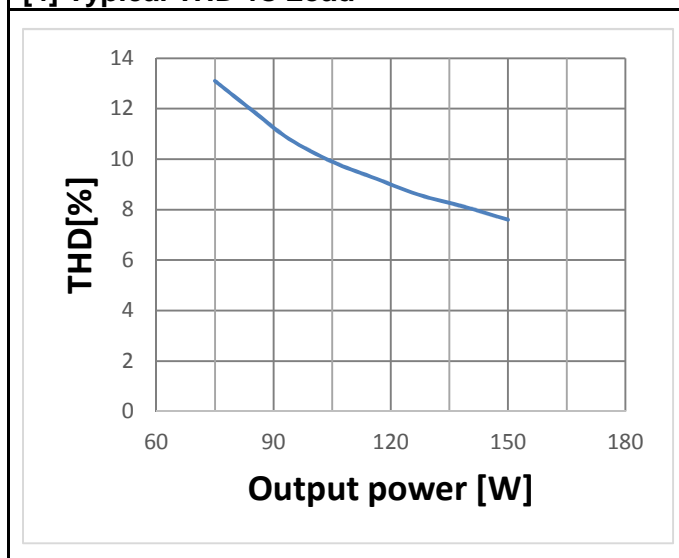
[2] Typical Efficiency vs Load



[3] Typical Power Factor vs Load



[4] Typical THD vs Load



Remarks

- **Input overvoltage protection:** the driver withstands an input voltage up to 300 Vac for a maximum of two hours, shut down of the output load might occur in case the supply voltage exceeds the declared input voltage range.
- **Output short circuit protection:** short circuit current is limited to the actual output current setting without damage to the unit. See typical operating window graph for details.
- **Input voltage range:** Nominal operation at 198 – 264Vac. Workable at 120 – 277Vac without safety issue, but normal performance such as THD, EMI, lifetime etc are not guaranteed. Flickering of LED would be possible when input voltage lower than 170V.
- **Output under voltage operation:** The output current setting is still effective if the load voltage is below the minimum output voltage without any safety issue, but normal performance such as THD, EMI etc is not guaranteed. See typical operating window graph for details.
- **Output over load/voltage protection:** In case the input voltage of the load exceeds the output voltage range which is auto defined by output current setting of the driver ($V_o = P_o / I_o$), it automatically reduces the output current. Auto-reversible without mains power on/off.
- **No load protection:** the driver automatically adjusts the output voltage to the maximum output voltage which is auto defined by output current setting if no load is connected. Auto-reversible with the correct load connected;
- **Over temperature protection:** the driver is protected against temporary overheating by shutting down until the overheating eliminated; Auto-reversible when temperature back to normal
- The protective earth (⊕ GNYE/PE) wire should be connected to the heat sink of the LED module to improve the surge withstand capability of the system and EMI in critical luminaires.
- The startup time to reach the set output current is less than 2 s.
- For further details please consult the application note

Standards

EN 61347-1
 EN 61347-2-13
 EN 55015
 EN 61547
 EN 61000-3-2
 EN 61000-3-3
 EN60598-1(ED.8)
 EN62384

| Product name | EAN10 | EAN40 | Pieces / box |
|-----------------------------|---------------|---------------|--------------|
| OT 150/220-240/1A4 1DIMA P7 | 4052899495050 | 4052899495067 | 10 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Manufacturer's address:

OSRAM GmbH
 Steinerne Furt 62
 D-86167 Augsburg
 Germany

www.osram.com

Technical support:

Customer Service Center Germany
 +49 (0)89-6213-60 00